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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,095	10/02/2006	Heinz Haas	12406-164US1 P2003,0690 U	8948
26161	7590	01/14/2008	EXAMINER	
FISH & RICHARDSON PC P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			WYATT, KEVIN S	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/573,095

Applicant(s)

HAAS ET AL.

Examiner

Kevin Wyatt

Art Unit

2878

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 23 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 0306.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. Claims 17-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. Claims 17-21 provide for the use of the apparatus of claim 1, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claims 17-21 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in

the United States.

4. Claims 1-4, 7-10, 16-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Manning (U.S. Patent No. 3,903,413).

Regarding claim 1, Manning shows in Fig. 2, a radiation detector (photocell system) for detecting radiation according to a defined spectral sensitivity distribution (400-700nm) having a sensitivity maximum at a defined wavelength λ_0 , (approx. 550nm, see Fig. 1) said radiation detector comprising at least one semiconductor chip (1, i.e., photocell) and at least one optical filter (combination of filter glass particles (3) and plastic resin (2)) disposed after said semiconductor chip (1), wherein said semiconductor chip contains at least one III-V semiconductor material (Si, i.e., silicon); said optical filter (2,3) absorbs radiation of a wavelength that is greater than the wavelength λ_0 (less than 20% sensitivity at 700nm) of the sensitivity maximum.

Regarding claim 2, Manning discloses said defined spectral sensitivity distribution is that of the human eye.

Regarding claim 3, Manning discloses a radiation detector comprising at least one semiconductor chip (1) and operative to detect radiation according to the spectral sensitivity distribution (400-700nm) of the human eye, wherein said semiconductor chip (1) contains at least one III-V semiconductor material (Si, i.e., silicon).

Regarding claim 4, Manning discloses wherein said radiation detector comprises at least one optical filter disposed after said semiconductor chip (1),

and said optical filter absorbs radiation of a wavelength (greater than 700nm) that is greater than the wavelength λ_0' of the sensitivity maximum of the human eye.

Regarding claim 7, Manning shows in Fig. 2, wherein said detector comprises an encapsulation (plastic resin (2)) that at least partially surrounds said semiconductor chip (1).

Regarding claim 8, Manning discloses said encapsulation contains a resin (2).

Regarding claim 9, Manning shows in Fig. 2, said optical filter (filter glass particles (3)) is disposed at least partially inside said encapsulation and/or the encapsulant itself constitutes the filter.

Regarding claim 10, Manning shows in Fig. 2, said optical filter (2, 3) contains a plurality of filter particles (filter glass particles (3)).

Regarding claim 16, Manning discloses a method comprising using the radiation detector according to claim 1 as an environmental light sensor (col. 1, lines 17-21).

Regarding claim 17, as understood, Manning discloses a method comprising controlling the exertion of an influence on devices whose manner of operation, period of operation, perception and/or use is related to the defined spectral sensitivity distribution by using the radiation detector according to claim 1 (col. 1, lines 17-21).

Regarding claim 18, as understood, Manning discloses a method comprising controlling the brightness of lighting devices by using the radiation

detector according to claim 1 (provides the output necessary to trigger external devices).

Regarding claim 19, as understood, Manning discloses a method comprising controlling the brightness of the backlighting of LCD screens by using the radiation detector according to claim 1 (provides the output necessary to trigger external devices).

Regarding claim 20, as understood, Manning discloses a method comprising controlling the brightness of indicators by using the radiation detector according to claim 1 (provides the output necessary to trigger external devices).

Regarding claim 21, as understood, Manning discloses a method comprising controlling the turn-on or turn-off instants of lighting devices by using the radiation detector according to claim 1 (provides the output necessary to trigger external devices).

5. Claims 1, 5, 11-12, 14-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Starikov (Publication No. U.S. 2002/0074553 A1).

Regarding claim 1, Starikov shows in Fig. 8, a radiation detector (PD) for detecting radiation according to a defined spectral sensitivity distribution having a sensitivity maximum at a defined wavelength λ_0 , said radiation detector comprising at least one semiconductor chip (81, i.e., substrate) and at least one optical filter (86, i.e., MQW) disposed after said semiconductor chip, wherein said semiconductor chip contains at least one III-V semiconductor material; said optical filter absorbs radiation of a wavelength that is greater than the wavelength λ_0 of the sensitivity maximum.

Regarding claim 5, Starikov shows in Fig. 8, said semiconductor chip is an LED chip.

Regarding claim 11, Starikov shows in Fig. 8, said semiconductor chip comprises a filter layer (86).

Regarding claim 12, Starikov shows in Fig. 4, filter layer absorbs wavelengths that are smaller than λ_0 or λ_0' .

Regarding claim 14, said III-V semiconductor material is, $\text{In}_x\text{Ga}_y\text{Al}_{1-x-y}\text{N}$, with in each case $0 \leq x \leq 1$, $0 \leq y \leq 1$ and $x + y \leq 1$.

Regarding claim 15, the emission wavelength of said LED chip is in the red region of the spectrum (longer wavelengths, paragraph 0060).

6. Claims 1-4 are rejected under 35 U.S.C. 102(e) as being anticipated by Nixon (Publication No. U.S. 2003/0122060 A1).

Regarding claim 1, Nixon shows in Figs. 13 and 28, a radiation detector (48 or 52) for detecting radiation according to a defined spectral sensitivity distribution [having a sensitivity maximum at a defined wavelength λ_0 , said radiation detector (48 or 52) comprising at least one semiconductor chip (572, i.e., semiconductor die) and at least one optical filter (58, i.e., ambient light filter or 60 i.e., glare filter) disposed after said semiconductor chip, wherein said semiconductor chip contains at least one III-V semiconductor material (silicon based); said optical filter absorbs radiation of a wavelength that is greater than the wavelength λ_0 of the sensitivity maximum (paragraph 0060).

Regarding claim 2, Nixon further discloses said defined spectral sensitivity distribution is that of the human eye (paragraph 0060).

Regarding claim 3, Nixon further shows in Figs. 13 and 28 a radiation detector (48 or 52) comprising at least one semiconductor chip (572, i.e., semiconductor die) and operative to detect radiation according to the spectral sensitivity distribution of the human eye (with the aid of 58 or 60), wherein said semiconductor chip (572) contains at least one III-V semiconductor material (paragraph 0060).

Regarding claim 4, Nixon further discloses said radiation detector (48 or 52) comprises at least one optical filter (58 or 60) disposed after said semiconductor chip (572), and said optical filter absorbs radiation of a wavelength that is greater than the wavelength λ_0' of the sensitivity maximum of the human eye (with the aid of 58 or 60)(paragraph 0060).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 6 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Starikov (Publication No. U.S. 2002/0074553 A1).

Regarding claim 6, Starikov discloses the claim invention as stated above. Starikov does not disclose that the sensitivity of said semiconductor chip exhibits at least one maximum at a wavelength λ_1 , said wavelength differing by no more than 50 nm, preferably no more than 15 nm, from the wavelength λ_0 or the wavelength λ_0' . It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum "ranges, or measurements" involves only routine skill in the art. It would have been obvious to one skilled in the art to provide a semiconductor chip having a sensitivity as recited above for the purpose of providing sensor with a desired bandwidth reception.

Regarding claim 13, Starikov discloses the claim invention as stated above. Starikov does not disclose said radiation detector has a detector sensitivity such that at an arbitrary wavelength, the difference between the corresponding values of said detector sensitivity and said defined sensitivity is less than 40%, preferably less than 25%. It has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum "ranges, or measurements" involves only routine skill in the art. It would have been obvious to one skilled in the art to provide a semiconductor chip having a sensitivity as recited above for the purpose of providing sensor with a desired bandwidth reception.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Carlson (U.S. Patent No. 6,038,023) discloses sensors for detection and spectroscopy.

Marsoner (U.S. Patent No. 5,039,490) discloses sensor element for determination of concentration of substances.

Powel (U.S. Patent No. 5,703,689) discloses an optical spectrometer

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kevin Wyatt whose telephone number is (571)-272-5974. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Georgia Epps can be reached on (571)-272-2328. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



K.W.



THANH X. LUU
PRIMARY EXAMINER